

LISTING OF CLAIMS:

1. (Currently Amended) A method for removing image artifacts from a representation of an image, comprising the steps of:

- (a) obtaining a pixel representation of the image;
- 5 (b) classifying each pixel in the image as a screen or non-screen pixel, wherein a screen pixel is defined as a pixel that is part of a predetermined periodic pattern;
- 10 (c) examining pixels in a predetermined surrounding area of each pixel to check the classification of that pixel as determined in step (b) by applying a two-dimensional mask that is divided into a plurality of quadrants, the center of the two-dimensional mask being common to each of the quadrants; and
- 15 (d) selectively applying a low pass filter to pixels in the image, such that, when the low pass filter is applied, one or more pixels covered by the low pass filter are respectively replaced by one or more other pixels covered by the low pass filter based on the examining in step (c).

2. (Currently Amended) The method of claim 1, wherein the classifying step (b) comprises applying a first one-dimensional mask of a predetermined size centered on the pixel being classified to determine if the center pixel is in an area having a part of the predetermined periodic pattern.

20 3. (Currently Amended) The method of claim 2, wherein the first one-dimensional mask is divided into a plurality of overlapping areas, the center pixel being in each of the first mask overlapping areas.

25 4. (Currently Amended) The method of claim 1, wherein, in the examining step (c), comprises applying a second mask of a predetermined size the two-dimensional mask is applied such that it is centered on the pixel being checked.

5. (Canceled)

6. (Original) The method of claim 2, wherein the predetermined periodic pattern is a periodic line or dot pattern having a period of 2 or 3.

7. (Currently Amended) The method of claim 54, wherein the selectively applying step (e) comprises selectively applying the low pass filter based on which of the plurality of ~~second mask areas~~ quadrants in the two-dimensional mask contains screen pixels.

5 8. (Original) The method of claim 1; further comprising the steps of:
(f) determining a feature indicator for at least one portion of the image; and
(g) adaptively sharpening or softening the at least one portion of the image based on the determined feature indicator.

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9. (Currently Amended) An apparatus for removing image artifacts from a representation of an image, the apparatus comprising:
a device for obtaining a pixel representation of the image;
a screen pixel identifier, in communication with the device, for classifying each pixel in the image as a screen or non-screen pixel, wherein a screen pixel is defined as a pixel that is part of a predetermined periodic pattern;
15 a screen region verifier, in communication with the screen pixel identifier, that includes a two-dimensional mask divided into a plurality of quadrants, the center of the two-dimensional mask being common to each of the quadrants, for examining pixels in a predetermined surrounding area of each pixel to check the classification of that pixel as determined by the screen pixel identifier; and
20 a low pass filter, in communication with the screen region verifier, that is selectively applied to the pixels in the image, such that, when the low pass filter is applied, one or more pixels covered by the low pass filter are respectively replaced by one or more other pixels covered by the low pass filter based on the examining.

10. (Currently Amended) The apparatus of claim 9, wherein the screen pixel identifier comprises a first one-dimensional mask of a predetermined size that is applied by centering the first one-dimensional mask on the pixel being classified to determine if the center pixel is in an area having a part of the predetermined periodic pattern.

11. (Currently Amended) The apparatus of claim 10, wherein the ~~first-one-dimensional mask~~ is divided into a plurality of overlapping areas, the center pixel being in each of the ~~first mask~~ overlapping areas.

12. (Currently Amended) The apparatus of claim 9, wherein the ~~screen-region verifier comprises a second mask of a predetermined size that~~ ~~two-dimensional mask~~ is applied by centering ~~the second mask~~ ~~it~~ on the pixel being checked.

13. (Canceled)

14. (Original) The apparatus of claim 10, wherein the predetermined periodic pattern is a periodic line or dot pattern having a period of 2 or 3.

15. (Currently Amended) The apparatus of claim ~~1312~~, wherein the low pass filter is selectively applied based on which of the plurality of ~~second mask areas~~ ~~quadrants in the two-dimensional mask~~ contains screen pixels.

16. (Original) The apparatus of claim 9, further comprising:

15 a frequency classifier that determines a feature indicator for at least one portion of the image; and

an image processor for adaptively sharpening or softening the at least one portion of the image based on the determined feature indicator.

17. (Currently Amended) A machine-readable medium embodying a program of instructions for causing a machine to perform a method of removing image artifacts 20 from a representation of an image, the program of instructions comprising instructions for:

(a) obtaining a pixel representation of the image;

25 (b) classifying each pixel in the image as a screen or non-screen pixel, ~~wherein a screen pixel is defined as a pixel that is part of a predetermined periodic pattern;~~

(c) examining pixels in a predetermined surrounding area of each pixel to check the classification of that pixel as determined by the classifying instruction (b) ~~by applying a two-dimensional mask that is divided into a plurality of quadrants, the center of the two-dimensional mask being common to each of the quadrants;~~ and

(d) selectively applying a low pass filter to pixels in the image, such that, when the low pass filter is applied, one or more pixels covered by the low pass filter are respectively replaced by one or more other pixels covered by the low pass filter based on the result of the examining instruction (c).

5 18. (Currently Amended) The machine-readable medium of claim 17, wherein the classifying instruction (b) comprises applying a first one-dimensional mask of a predetermined size centered on the pixel being classified to determine if the center pixel is in an area having a part of the predetermined periodic pattern.

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10 19. (Currently Amended) The machine-readable medium of claim 18, wherein the first one-dimensional mask is divided into a plurality of overlapping areas, the center pixel being in each of the first maskoverlapping areas.

15 20. (Currently Amended) The machine-readable medium of claim 17, wherein, in the execution of the examining instruction (c), ~~comprises applying a second mask of a predetermined size~~the two-dimensional mask is applied such that it is centered on the pixel being checked.

21. (Canceled)

22. (Original) The machine-readable medium of claim 18, wherein the predetermined periodic pattern is a periodic line or dot pattern having a period of 2 or 3.

20 23. (Currently Amended) The machine-readable medium of claim 2120, wherein the selectively applying instruction (e) comprises selectively applying the low pass filter based on which of the plurality of second maskareasquadrants in the two-dimensional mask contains screen pixels.

25 24. (Original) The machine-readable medium of claim 17, further comprising instructions for:

(f) determining a feature indicator for at least one portion of the image; and

(g) adaptively sharpening or softening the at least one portion of the image based on the determined feature indicator.